

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

LG.PHILIPS LCD CO., LTD.,

Plaintiff/Counterclaim Defendant,

v.

TATUNG COMPANY;
TATUNG COMPANY OF AMERICA, INC.;
CHUNGHWA PICTURE TUBES, LTD.;
AND VIEWSONIC CORPORATION,

Civil Action No. 05-292 (JJF)

REDACTED

Defendants/Counterclaim Plaintiffs.

**PLAINTIFF LG.PHILIPS LCD CO., LTD.'S ANSWERING BRIEF IN OPPOSITION TO
DEFENDANTS' RENEWED MOTION FOR JUDGMENT AS A MATTER OF LAW OR,
IN THE ALTERNATIVE, A NEW TRIAL**

THE BAYARD FIRM
Richard D. Kirk (#922)
222 Delaware Avenue, Suite 900
P.O. Box 25130
Wilmington, DE 19899-5130
(302) 429-4208

Counsel for Plaintiff
LG.PHILIPS LCD CO., LTD.

OF COUNSEL:

Gaspare J. Bono
R. Tyler Goodwyn
Cass W. Christenson
McKenna Long & Aldridge LLP
1900 K Street, N.W.
Washington, D.C. 20006
(202) 496-7500 (Telephone)
(202) 496-7756 (Facsimile)
October 23, 2006

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Plaintiff LG.Philips LCD Co., Ltd. (“LPL”), submits this brief in opposition to the Renewed Motion for Judgment As a Matter of Law or, in the Alternative, a New Trial, (hereinafter “D.I. 460”) filed by Defendants Chunghwa Picture Tubes, Ltd. (“CPT”), Tatung Company, Tatung Company of America, Inc., and ViewSonic Corporation (collectively, “Defendants”).

I. NATURE AND STAGE OF THE PROCEEDINGS

LPL originally brought this action on two patents, U.S. Patent Nos. 5,019,002 (the “‘002 patent”) and 6,738,121. LPL proceeded to trial solely on the ‘002 patent, asserting that Defendants infringed claims 1 and 8. After a nine day trial, the nine-person jury unanimously returned a verdict that each Defendant directly infringes claims 1 and 8, and induces others to infringe. The jury also found that each Defendant is a willful infringer, and awarded LPL the full amount of damages that LPL requested at trial, \$52,477,000.00. The Court entered the verdict on July 27, 2006, and dismissed the jury. On September 1, 2006, LPL moved for entry of judgment. (D.I. 437). Because of Defendants’ willful infringement and other misconduct, LPL also seeks enhanced damages, attorneys’ fees, and pre-judgment interest. LPL’s motion is fully briefed. (D.I. 438; 450; 452). On October 10, 2006, Defendants filed this motion (D.I. 459), and two other motions (D.I. 461; 463), seeking judgment as a matter of law, a new trial, a remittitur, and/or unquantified attorneys’ fees and expenses, all of which LPL disputes.

II. SUMMARY OF ARGUMENT

1. Defendants’ motion impermissibly seeks to reargue the credibility of witnesses and the jury’s fact-finding. On post-trial review, however, the standard is whether there is substantial evidence to support the jury’s verdict. Because substantial evidence exists to support each of the jury’s findings, Defendants’ motion should be denied.

2. The jury correctly found in LPL's favor regarding the only two disputed claim terms: (1) "interconnecting," and (2) "resistance." With respect to "interconnecting," the jury properly applied the doctrine of equivalents and rejected Defendants' arguments.

3. In addition, the jury properly rejected Defendants' argument regarding "resistance."

Thus, CPT's products use a circuit component that has a specified resistance to the flow of electric current and is used to minimize the current surge from an electrostatic discharge ("ESD"), which constitutes "resistance," as construed by the Court.

4. The jury correctly rejected CPT's anticipation defense to claim 1. Defendants cannot show that no reasonable jury could have failed to conclude that the evidence clearly and convincingly showed that claim 1 is anticipated. CPT did not prove by clear and convincing evidence that either Okawa or Kawamura individually teaches all of the elements of claim 1. In addition, the evidence showed that the invention pre-dates the publication of Kawamura, so Kawamura is not prior art. Defendants do not argue that claim 1 is obvious.

5. The jury also correctly rejected CPT's obviousness defense to claim 8. Defendants cannot show that no reasonable jury could have failed to conclude that the evidence

clearly and convincingly showed that claim 8 is obvious. CPT did not prove by clear and convincing evidence: (1) that any combination of prior art references teaches each and every element of claim 8, as no reference teaches the removal of the outer guard ring; or (2) motivation to combine references to provide both inner and outer guard rings as required by claim 8. Defendants do not argue that claim 8 is anticipated.

III. STATEMENT OF FACTS

A. The ‘002 Patent Invention Date Is Prior To May 11, 1988

The inventor of the ‘002 patent, Scott Holmberg, testified extensively by deposition. Trial Tr. 536:1 *et seq.* (Ex. 1).¹ Mr. Holmberg explained in detail his efforts to test various ESD protection methods that led to the invention of the methods in the ‘002 patent. Trial Tr. 547:7-20. Further, Mr. Holmberg confirmed that the invention was complete before May 5, 1988, when he met with patent prosecution counsel regarding the invention. Trial Tr. 551:3-22. LPL also submitted contemporaneous third party documents confirming testing efforts, and corroborating Mr. Holmberg’s testimony on the invention date. *See* PTX 130.

B. CPT Only Disputes the “Interconnecting” and “Resistance” Elements

CPT concedes meeting every limitation of claims 1 and 8 except for two terms: “interconnecting” and “resistance.” *See* D.I. 460 at 2. At trial, moreover, Dr. Howard confirmed that all of the remaining elements are literally present. Trial Tr. 533:16 - 535:14.

C.

The Court construed “interconnecting” to mean “electrically connecting with conductors.” *See LG Philips LCD Co., Ltd. v. Tatung Co.*, 434 F. Supp. 2d 292, 296 (D. Del. 2006).

¹ Pages of the Trial Transcript cited herein are attached at Ex. 1.

At trial, LPL introduced printouts from CPT's .str electronic mask files, which are the detailed blueprints for the array designs regarding CPT's accused products. *See* PTX 8-13; Trial Tr. 1275:14 - 1276:11. Mr. He, CPT's Director of Design, testified that CPT's mask files are the best source to determine whether CPT's structures are interconnected. *See* Trial Tr. 1274:3-7.

Dr. Howard testified that a function of interconnecting is to electrically connect for ESD protection. Trial Tr. 1684:4-8. Dr. Schlam similarly explained that the purpose of interconnecting in the '002 patent is to disperse a concentration of charge on the TFT array to prevent damage. *Id.* at 395:16 - 396:8. Mr. Holmberg and Mr. Cho likewise testified that a reason for interconnecting is to disperse charge. *Id.* at 477:15-21; 480:10-19.

Dr. Howard also testified that the way interconnecting electrically connects to disperse charge is to provide an electrical pathway. *Id.* at 1684:12-15.

Dr. Howard agreed that electrically connecting with conductors allows the possibility of current to flow when a voltage is present. *Id.* at 1672:3-22.

Current flow (dispersal of charge for ESD protection) is only necessary in the presence of voltage (electrostatic charge). *See e.g.*, 329:5 - 331:14; 1253:2-24.

Dr. Schlam explained that interconnecting results in the dispersal of charge, which protects the array. Trial Tr. 393:16-24; 395:19 - 396:8. Dr. Howard likewise testified that when there is ESD,

Mr. He likewise agreed that when ESD is present, charge will be dissipated to reduce damage. *Id.* at 1253:2-7.

D. CPT's Products Include a "Resistance"

The Court construed "resistance" to mean "a circuit component that has a specified resistance to the flow of electric current and is used to minimize the current surge from an electrostatic discharge." *See LG Philips LCD Co.*, 434 F. Supp. 2d at 299. Applying the Court's construction of "resistance," Dr. Schlam confirmed that a specified resistance is a determinable or defined resistance. *Id.* at 498:13-19. Dr. Schlam also testified that, in this context, the purpose of minimizing the current surge is to protect the TFT array. *Id.* at 405:8 - 407:17.

Dr. Howard agreed that it is the array that needs protection. *Id.* at 1697:15 - 1698:17. ITO itself does not maximize current surge. *Id.* at 1693:7-20.

IV. **DEFENDANTS FAIL TO ESTABLISH ANY BASIS TO DISREGARD THE JURY'S VERDICT OR GRANT A NEW TRIAL**

A. **Defendants Fail To Establish Any Basis for Judgment as a Matter of Law**

The Court should reject Defendants' attempt to reargue the same evidence that the jury properly considered and relied upon to reach its verdict in favor of LPL. Defendants' motion must be denied if the jury's verdict is supported by "substantial evidence," which "describes that minimum quantum of evidence from which a jury might reasonably afford relief." *See Comark Commc'ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1190 (Fed. Cir. 1998); *see also Olefins Trading, Inc. v. Han Yang Chem Corp.*, 9 F.3d 282, 288 (3d Cir. 1993). "Motions for judgment as a matter of law are granted 'sparingly' and only in those circumstances in which 'the record is critically deficient of the minimum quantum of evidence in support of the verdict.'" *Tristrata*

Tech., Inc. v. Mary Kay, Inc., 423 F. Supp. 2d 456, 461 (D. Del. 2006) (quoting *Johnson v. Campbell*, 332 F.3d 199, 204 (3d Cir. 2003)). The Court does not decide anew the disputed facts: “the court is not in a position on a post trial motion to weigh evidence, pass on credibility issues or substitute its judgment for that of the jury” *Joy Techs., Inc. v. Flakt, Inc.*, 820 F. Supp. 802, 805 (D. Del. 1993), *aff’d*, 60 F.3d 843 (Fed. Cir. 1995). The Court draws all logical inferences in LPL’s favor and generally views the entire record in the light most favorable to LPL. *See id.* (citing *Williamson v. Consolidated Rail*, 926 F.2d 1344, 1347 (3d Cir. 1991)); *see also Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893 (Fed. Cir. 1984). The Court thus must decide “whether, viewing the evidence in the light most favorable to the verdict, a reasonable jury could have found” for LPL.² *Tristrata Tech., Inc.*, 423 F. Supp. 2d at 462 (citation omitted).

B. Defendants Fail To Establish Any Basis for a New Trial

Similarly, Defendants fail to establish any basis for a new trial. “Only if the verdict is so unreasonable as to offend the conscience of the Court should the Court disturb the verdict.” *Joy Techs.*, 820 F. Supp. at 805. Motions for new trial based on the weight of the evidence, moreover, are viewed cautiously to avoid substituting the court’s judgment for that of the jury. *See id.*; *Tristrata Tech., Inc.*, 423 F. Supp. 2d at 468 (citing *Klein v. Hollings*, 992 F.2d 1285, 1290 (3d Cir. 1993)). Courts should deny a new trial except in extraordinary cases when

² LPL proved by a preponderance of the evidence, meaning “that infringement was more likely than not to have occurred,” that CPT’s accused process meets all limitations of claims 1 and 8. *Warner-Lambert Co. v. TEVA Pharms. USA, Inc.*, 418 F.3d 1326, 1341 n.15 (Fed. Cir. 2005); *see also Corning Inc. v. SRU Biosys.*, 400 F. Supp. 2d 653, 659 (D. Del. 2005). Thus, the Court is not “deciding the factual issues of infringement in the first instance” and Defendants’ non-infringement arguments were “properly directed toward the factfinder, not the Court; the Court will not disturb the jury’s findings of infringement unless substantial evidence does not exist to support those findings or unless the jury’s verdict is contrary to the clear weight of the evidence.” *Lucas Aerospace, Ltd. v. Unison Indus., L.P.*, 899 F. Supp. 1268, 1281 (D. Del. 1995).

necessary to avoid a miscarriage of justice, or if the verdict “cries out to be overturned” or otherwise “shocks [the court’s] conscience.” *Lucent Tech., Inc. v. Newbridge Networks Corp.*, 168 F. Supp. 2d 181, 251 (D. Del. 2001) (citing *Williamson*, 926 F.2d at 1352); *see also Praxair, Inc. v. ATMI, Inc.*, 445 F. Supp. 2d 460, 465 (D. Del. 2006) (“to promote finality after trial, as well as to preserve the historical function of the jury as the trier of facts, the court should grant a new trial on the basis that the verdict was against the weight of the evidence only where a miscarriage of justice would result” from the verdict). Because the jury’s verdict in this case is well-supported, the Court should deny a new trial.

C. The Court Should Not Disturb the Jury’s Well-Supported Factual Findings Regarding Equivalence Concerning the Element of “Interconnecting”

In this case, the doctrine of equivalents was invoked only concerning the element of “interconnecting.”³ A process that does not infringe literally may nonetheless be found to infringe under the doctrine of equivalents. *Corning Inc.*, 400 F. Supp. 2d at 659. “Infringement under the doctrine of equivalents requires an intensely factual inquiry.” *Leggett & Platt, Inc. v. Hickory Springs Mfg. Co.*, 285 F.3d 1353, 1357 (Fed. Cir. 2002) (quoting *Vehicular Tech. Corp. v. Titan Wheel Int’l, Inc.*, 212 F.3d 1377, 1381 (Fed. Cir. 2000)); *see also Lucent Techs.*, 168 F. Supp. 2d at 208. Defendants agree, for example, that the function of interconnecting was a factual issue for the jury to decide. *See* D.I. 460 at 13 (“the jury was obliged first to determine

³ At trial, LPL presented an affirmative case of equivalency regarding the “interconnecting” element, including expert testimony, cross-examination, and exhibits. Accordingly, the Court instructed the jury specifically with respect to the doctrine of equivalents. In doing so, the Court gave Defendants’ requested instruction titled “Situations where Resorting to Doctrine of Equivalents is Not Permitted,” thus submitting these factual issues to the jury. Trial Tr. 1909:20-24; D.I. 377, Excerpt of Jury Instruction 3.9.2, attached hereto as Ex. 2. In closing argument, moreover, LPL’s counsel specifically addressed the equivalency issues. *See, e.g.*, Trial Tr. 2035-2037. LPL proved that the only other disputed term, “resistance,” was literally present. *See Comark Commc’ns*, 156 F.3d at 1188 (“the jury must have found that one or more claim elements were met by equivalents, and could have found the remainder of the claim elements were met literally.”).

the *functions* of the interconnecting element"). Another "intensely factual" issue for the jury was whether the accused process performed the function of interconnecting in substantially the same way as claimed in the '002 patent. *See Leggett & Platt, Inc.*, 285 F.3d at 1359.

The doctrine of equivalents "allows the patentee to claim those insubstantial alterations that were not captured in drafting the original patent claim but which could be created through trivial changes." *Aquatex Indus., Inc. v. Techniche Solutions*, 419 F.3d 1374, 1382 (Fed. Cir. 2005) (quoting *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 733 (2002)). This doctrine thus serves "the equitable purpose of 'prevent[ing] an infringer from stealing the benefit of an invention.'" *E.I. DuPont de Nemours & Co. v. Phillips Petroleum Co.*, 711 F. Supp. 1205, 1224 (D. Del. 1989) (alteration in original) (quoting *Texas Instr., Inc. v. ITC*, 805 F.2d 1558, 1572 (Fed. Cir. 1986)). The essential inquiry is whether the accused process embodies "elements identical or equivalent to each claimed element of the patented invention." *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 40 (1997).

V. CPT PRACTICES THE "INTERCONNECTING" ELEMENT AT LEAST UNDER THE DOCTRINE OF EQUIVALENTS

A.

See Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp., 320 F.3d 1339, 1351 (Fed. Cir. 2003).

CPT's response merely attempts to create artificial distinctions.

This distinction, however, is meaningless and misleading in the relevant context of electrically connecting to disperse ESD.

Dr. Howard agreed that electrically connecting with conductors requires the possibility of current to flow. *Id.* at 1672:3-22. CPT's new post-trial argument that "interconnecting" requires a continuous connection of conductors misapplies the "substantial differences" analysis under

the doctrine of equivalents. As this Court has explained, an infringer cannot avoid the doctrine of equivalence merely by showing that there is *some*, but *contextually irrelevant*, difference between the claim element and the equivalent element.⁴ *See Applera Corp. v. Micromass UK Ltd.*, 204 F. Supp. 2d 724, 776 (D. Del. 2002), *aff'd*, 60 Fed. Appx. 800 (Fed. Cir. 2003) .

Equivalency does not depend

on whether two components are necessarily interchangeable. Fundamentally, the inquiry is whether there is no substantial difference between the element in the claim and the element in the accused product or process. The case cited by Defendants confirms this test, and does not, as Defendants suggest, ascribe any special significance to interchangeability. *See Canton Bio-Med, Inc. v. Integrated Liner Techs., Inc.*, 216 F.3d 1367, 1369 (Fed. Cir. 2000) ("Processes are equivalent . . . when there is no substantial difference between the patented process and the accused process."). The evidence supports the jury's conclusion that there is no substantial difference, at least in the relevant context of electrically connecting row and column lines at the

⁴ In *Applera*, the defendant relied in part on expert testimony that "substantial differences" existed between "the characteristics of ion motion" depending on the electric field involved. *Applera Corp.*, 204 F. Supp. 2d at 776. The Court rejected this argument, however, noting that the expert "did not relate those comments to whether the axial field created in the ion tunnel *operates in a substantially different way* than the rod set" in the asserted patent (emphasis added). *Id.* Similarly, in this case, the evidence confirms that there is no substantial difference between the conductor and semiconductor structure in CPT's products and the "interconnecting" element in claim 1 of the '002 patent. *See id.* (infringement by equivalents can be shown by proving that the difference between structures is insubstantial).

– as opposed to operation of the TFT pixel array. Whether other differences exist in other contexts, and whether any such differences are insubstantial, is immaterial.

B.

Courts sometimes apply a “function-way-result” analysis when assessing insubstantial difference, to determine whether the element in the accused process “does substantially the same thing in substantially the same way to get substantially the same result” as the claim limitation.

Toro Co. v. White Consol. Indus., Inc., 266 F.3d 1367, 1370 (Fed. Cir. 2001) (quoting *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1260 (Fed. Cir. 1989)).

. Further, CPT creates the same type of electrically conducting path taught by the ‘002 patent, thus “interconnecting” in substantially the same way. CPT, moreover, does not deny that its interconnecting method achieves the same result as “interconnecting” in the ‘002 patent, dispersing charge to reduce ESD damage.

1.

The function of the “interconnecting” element is to electrically connect, for the purpose of providing ESD protection by dispersing electrostatic charge. Dr. Howard agreed that a function of interconnecting is to electrically connect to protect against ESD. Trial Tr. 1684:4-8. Likewise, Dr. Schlam confirmed that the function of “interconnecting” is to electrically connect,

to disperse charge.⁵

As Dr. Schlam further explained, the purpose of interconnecting is to disperse a concentration of charge on the TFT array to prevent damage.⁶ *Id.* at 395:16 - 396:8.

This structure in CPT's accused products thus meets the function of interconnecting under the doctrine of equivalents.

CPT's attempt to redefine the function of "interconnecting" as "two-point testing" fails for several reasons. *First*, the jury was instructed on the function, way, result test and the jury rejected CPT's argument. Trial Tr. 2240:19 - 2244:5. Because the jury rejected this argument, and resolved the facts concerning function, way, and result in favor of LPL, CPT is not entitled to reargue these facts to the Court. *See Lucas Aerospace*, 899 F. Supp. at 1281.

LPL's case properly emphasized the importance of the claim language in the '002 patent, and Defendants cannot show that this emphasis somehow caused the jury to disregard the evidence presented, the arguments of CPT's counsel, and the jury instructions. *See* D.I. 460 at 16-17. The starting point in determining the function of a claim is the claim language, not the

⁵ Dr. Schlam's testimony concerning "interconnecting" does not, as Defendants' contend, reflect any material inconsistency. *See* D.I. 460 at 11-12. Dr. Schlam's statement that "certainly we're talking about interconnecting" is consistent with his equivalency conclusion. Similarly, Dr. Schlam's statement that CPT's interconnecting structure "performs that function" and allows for dispersal of charge also supports his equivalency conclusion. To the extent that Dr. Schlam at some point equated or transposed "interconnecting" and "electrically connecting," moreover, that does not support Defendants' position.

specification. *See Toro Co.*, 266 F.3d at 1371. In *Toro*, the Federal Circuit specifically reaffirmed that it is improper to “import into the claim a function from the specification.” *Id.* Rather, “it is the claim, not the specification, that measures and defines the metes and bounds of the invention.” *Procter & Gamble Co. v. Nabisco Brands, Inc.*, 711 F. Supp. 759, 764-65 (D. Del. 1989) (disavowing that “everything expressed in the specification *must* be read into all the claims” (emphasis added)). In determining “function” of the “interconnecting” element, therefore, LPL properly focused on the claim language. *See Toro Co.*, 266 F.3d at 1371 (“While this structure could have a variety of other functions . . . these functions do not become part of the claimed structure unless claimed as such.”). Indeed, the cases cited by Defendants reinforce the importance of the claim language in analyzing for functional equivalency. Defendants’ cases, moreover, involve functions prominently set forth and disclosed, not purportedly incorporated by reference to a separate patent.⁷

Second, the ‘002 and the ‘222 patents are directed to distinctly different purposes -- ESD protection and testing, respectively. Consequently, the purpose and of “interconnecting” in the

(footnote continued from previous page)

⁶ Dr. Howard likewise agreed that, in the context of the ‘002 patent, the purpose of “interconnecting” is electrostatic discharge protection. Dr. Howard testified that the purpose of Claim 1 of the ‘002 patent is to provide protection from electrostatic discharges. *See* Trial Tr. 1686:3-12.

⁷ In *Vehicular Technologies*, for example, the specification contained multiple “clear disclosures and assertions” linking claim elements to a particular function. *Vehicular Techs. v. Titan Wheel Int’l, Inc.*, 212 F.3d 1377, 1382 (Fed. Cir. 2000). This repeated emphasis of a particular function, coupled with “unmistakable assertions disavowing all devices without” the claimed elements, prompted the court to consider this as a “key” function. *Id.* at 1380. Given the claim language, and the “multiple statements in the written description” describing the function, the court determined that the accused device did not infringe because it lacked the “key” function emphasized in the patent; but, nothing in *Vehicular Technologies* suggests that a function becomes “key” merely based on incorporation by reference. In *ATD Corp.*, moreover, the function was set forth in the claims, not in the specification. The *ATD Corp.* court noted that *Vehicular Technologies* looked to the specification language as a source for determining function, but *declined* to take a similar approach. *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 544 n.2 (Fed. Cir. 1998).

‘222 Patent is different from that in the ‘002 patent. The ‘002 patent is directed to and claims *ESD protection*. See, e.g., PTX 1. The ‘222 Patent, however, is directed to and claims *testing*. CPT cannot add a “two-point testing” limitation to claims of the ‘002 patent simply because the ‘002 patent incorporates the ‘222 Patent by reference.⁸

When incorporated by reference into a patent, only essential material is used to support claims. *Manual of Patent Examining Procedure* § 608.01(p)(B) (12th ed. 1989) (Ex. 3); see generally *Atmel Corp. v. Info. Storage Devices, Inc.*, 198 F.3d 1374, 1377 & n.4 (Fed. Cir. 1999). Further, essential material incorporated by reference must be clearly identified including where in the reference document the material can be found. See *In re De Seversky*, 474 F.2d 671, 674 (C.C.P.A. 1973); *In re Saunders*, 444 F.2d 599, 602-03 (C.C.P.A. 1971). The ‘002 patent did not, as CPT implies, incorporate the ‘222 patent as essential material.⁹ Instead, the ‘222 patent was incorporated into the “Background” section of the ‘002 “for purposes of indicating the background of the invention or illustrating the state of the art.” See *MPEP* § 608.01(p)(B). (Ex. 3).

The ‘002 patent does not refer to “two-point testing” as a purpose or function of the claims of that patent. CPT’s expert, Dr. Howard, necessarily admitted that whereas Claim 9 of the ‘222 patent identifies a testing function, Claim 1 of the ‘002 patent *does not* refer to testing. *Id.* at 1676:14 - 1678:2. CPT cannot incorporate a function explicitly claimed in a different patent into the claims of the ‘002 patent.

⁸ CPT misstates that Dr. Schlam never read the ‘222 patent. Dr. Schlam reviewed the ‘222 patent, and the fact that he did not study it more carefully did not detract from any of his opinions. Trial Tr. 476:4-15.

⁹ Moreover, the ‘222 could not have been used as a source of essential material incorporated into the ‘002 patent as it did not refer to (1) a United States patent or (2) an allowed U.S. application. *MPEP* § 608.01(p)(B). Accordingly, the material relied on by Defendants as essential to the meaning of the term “interconnected” could not have been considered essential by the applicant or the USPTO.

Third, CPT cites no cases to support the result of its argument, which would allow a defendant to escape liability by relying on a distinct function from that of the claim element. CPT's argument that the jury needed to "consider" "all significant functions" is misplaced. *See* D.I. 460 at 10 (citing *Vehicular Techs.* at 1380). In *Vehicular Technologies*, the Federal Circuit analyzed "the role played by each limitation in the context of the claim." 212 F.3d at 1380. In the '002 patent, in the context of the claims, the role of "interconnecting" is solely and specifically related to protecting against ESD by dispersing charge, not to "two-point testing."

Fourth, the logical conclusion of CPT's argument is that there are no possible equivalents to "electrically connecting with conductors." To perform two-point testing, as CPT asserts is required, the row and column lines must be interconnected with conductors in a serpentine pattern. Because this would effectively limit the claim to "electrically connecting with conductors in a serpentine pattern," CPT's position, taken to its logical conclusion, would require literal infringement in order to infringe by equivalence. This result is illogical and eviscerates the doctrine of equivalents. CPT's "two-point testing" argument must fail.

2.

CPT interconnects in the same or substantially the same way as claimed in the '002 patent. In claim 1, "interconnecting" is performed by creating an electrical conduction path for the purpose of dispersing charge. CPT's interconnecting structure functions at least substantially the same way.

1. CPT's mask file printouts show that for each of CPT's products, CPT interconnects by providing an electrical conduction path to disperse ESD. *See, e.g.*, Trial Tr. 411:12 - 420:8. CPT's expert, Dr. Howard, agreed that the way that interconnecting disperses charge in CPT's accused products is to provide an electrical pathway. *Id.* at 1684:12-15;

1661:23 - 1662:4.

Dr. Howard testified, moreover, that electrically connecting with conductors allows the possibility of current to flow when a voltage is present. *Id.* at 1672:12-22.

CPT attempts to manufacture a “substantial difference” by arguing that dispersal of charge must be across all row and column lines simultaneously. CPT’s attempt to argue now that it does interconnecting in a different way is really the same argument that CPT made concerning literal infringement at trial. CPT’s expert, Dr. Howard, testified that the lack of simultaneous interconnecting with conductors precluded literal infringement. Trial Tr. 1521:15 - 1522:4. CPT cannot spin this into an equivalency issue now, after Dr. Howard argued that the two-point testing is the only reason for not applying the doctrine of equivalents: “The reason is because of the function requirement under the Doctrine of Equivalents. They don’t – they don’t provide the same function.” Trial Tr. 1520:4-14. Dr. Howard specifically confirmed that only the purported two-point testing function avoided the doctrine of equivalents: “And then in terms of equivalency, CPT cannot perform two-point testing of the entire array, which is a function of the interconnection requirement.” Trial Tr. 1522:5-8. In fact, Dr. Howard did not even address the “way” or “result” associated with a doctrine of equivalents analysis. CPT’s function argument is incorrect, as explained above, and CPT cannot now repackage its literal infringement argument to avoid equivalency.

Further, even if CPT had made the argument at trial, it fails as a matter of law because it seeks to limit the scope of the claims to the Court's literal construction of the term "interconnecting," thus attempting to foreclose an equivalency analysis.

Defendants' argument thus improperly ignores the distinction between literal infringement and infringement by equivalence. *See Lucas Aerospace*, 899 F. Supp. at 1284 (emphasizing that each limitation need not be found literally, if "its substantial equivalent" is present).

By definition, however, "any analysis of infringement under the doctrine of equivalents must deal with subject matter that does not fall within the literal scope of the claim language." *Cordis Corp. v. Boston Scientific Corp.*, No. Civ. 03-027-SLR, 2006 WL 1305227, *17 (D. Del. May 11, 2006) (unpublished).¹⁰

3.

At trial, CPT did not dispute that CPT's interconnecting structure disperses ESD, which LPL showed is the result of "interconnecting" in the '002 patent. Mr. Holmberg confirmed this result. Trial Tr. 477:15-21. Dr. Schlam also agreed with this result. *Id.* at 393:22-24. CPT's witnesses also confirmed that

¹⁰ Copies of unpublished cases cited herein are attached as Ex. 4.

CPT's "interconnecting" achieves the result of dispersing ESD. *See* Trial Tr. 1253:2-24; 1685:5 - 1686:2; 1683:20-1684:15.

C. CPT Is Not "Practicing the Prior Art" for "Interconnecting" and Okawa's Use of MIM Diodes Does Not Preclude A Finding of Equivalency

CPT argues unconvincingly that, by infringing, CPT is merely "practicing the prior art" as taught by Okawa. *See* D.I. 460 at 20.¹¹ As the jury correctly concluded, the Okawa reference does not anticipate claim 1.¹² Okawa shows interconnecting using MIM (metal - insulator - metal) diodes that operate in reverse breakdown, which is fundamentally different than the interconnecting structure used by CPT.

As Dr. Schlam explained, diodes operate using "a tunneling process which is a special quantum mechanical process, electrons tunnel from this metal electrode to this metal electrode across the insulator because of a high field that's impressed on the insulator telling the process is not a conduction process." Trial Tr. 1955:23 - 1956:12.

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¹² As discussed in § VII.B.1, *infra*, Okawa does not anticipate because, unlike the '002 patent, Okawa does not teach:

Okawa teaches away from removal and suggests *not* removing the guard ring. *Id.* at 1953:16 - 1954:9; 1952:7-12. CPT's forced reading of Okawa to argue that it teaches removal of guard rings improperly combines *separate* embodiments. *Id.* at 1716:7-15. CPT also never makes a showing of any motivation to combine to achieve removal. *See* § VII.C.2, *supra*.

CPT's attempt to characterize as "legally insufficient" the fact that removal of guard rings is not expressly found in Okawa, likewise, is unconvincing. *See* D.I. 460 at 20 n.5. (citing *Standard Havens Prods., Inc. v. Gencor Indus., Inc.*, 953 F.2d 1360, 1369 (Fed. Cir. 1991). In *Standard Havens Products*, the Federal Circuit affirmed a jury's verdict that an asserted reference did not anticipate a claim. 953 F.2d at 1370. This Court also should find no inherently present limitation in Okawa. "For an element to be inherent in a prior art reference it must necessarily be present in the reference." *Lucent Techs.*, 168 F. Supp. 2d at 233 (citing *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991)). Inherency requires more than just "probabilities or possibilities," or that the disputed thing "may result from a given set of circumstances." *Id.* (citing *Continental Can Co.*, at 1268-69)). Defendants must show "that the natural result flowing from the operation as taught would result in the performance of the questioned function." *Id.* Defendants fail to show that the guard ring is removed in Okawa and thus fail to meet this stringent standard.

D. Applying the Doctrine of Equivalents Does Not “Recapture Non-Claimed Classes of Materials”

Defendants also incorrectly suggest that the doctrine of equivalents cannot apply in this case or LPL would “recapture” purportedly “separate classes of materials.” D.I. 460 at 21 (citing *Freedman Seating Co. v. America Seating Co.*, 420 F.3d 1350 (Fed. Cir. 2005)).

¹³ The relevant *element* of the claim is “interconnecting”.

Significantly, in *Freedman Seating*, the Federal Circuit reaffirmed that infringement cannot be limited to the literal scope of the patent, or else the patent’s “value would be greatly diminished” and “insubstantial substitutes for certain elements could defeat the patent.” *Id.* at 1358 (quoting *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 731 (2002)). As a result, “the doctrine of equivalents necessarily adds uncertainty to the scope of patent claims” despite the public-notice function of such claims. *Id.* at 1358. In balancing these considerations, courts must “consider the totality of circumstances of each case and determine

¹³ Defendants’ reliance on *Freedman Seating* is misplaced. *Freedman Seating* does not, as Defendants argue, hold that “recapture of non-claimed classes of materials would undermine the public notice function of patents,” nor does it apply any relevant limitation on equivalency. D.I. 460 at 21. In *Freedman Seating*, the Federal Circuit applied the settled “all limitations rule” that prevents deeming an element to be equivalent when there is “a clear, substantial difference or difference in kind” between the limitations in the invention and the accused product or process. *Freedman Seating Co. v. Am. Seating Co.*, 420 F.3d 1350, 1361, *cert. denied*, 126 S. Ct. 1167 (2006) (quoting *Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 149 F.3d 1309, 1321 (Fed. Cir. 1998)). This rule is necessary to avoid applying the doctrine of equivalents in a way that “would entirely vitiate the limitation.” *Id.* at 1358. The Court reasoned that the patented invention required a support member that was *slideably* mounted, but the accused product was confined to a fixed location and was *rotatably* mounted, not *slideably* mounted. *Id.* at 1361.

whether the alleged equivalent can be fairly characterized as an insubstantial change from the subject matter without rendering the pertinent limitation meaningless.” *Id.* at 1359.

In this case, substantial evidence supports the jury’s determination that CPT’s “interconnecting” method is substantially the same as, and equivalent to, “interconnecting” in the ‘002 patent. This conclusion does not “entirely vitiate” the “interconnecting” element. This is not a case, like *Freedman Seating*, in which applying equivalence effectively rewrites the asserted claims.¹⁴ Rather, this is a case where the doctrine of equivalents properly prevents CPT from unfairly “stealing the benefit of the invention.” *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608 (1950).

VI. CPT LITERALLY PRACTICES THE ELEMENT OF COUPLING VIA A “RESISTANCE” IN TWO WAYS

A. The Court Should Reject CPT’s Claim Construction Arguments Regarding “Resistance” and Adhere to the Court’s Markman Rulings

CPT’s reliance on the word “specified” is erroneously based on the contention that a “specified” resistance must be fixed or constant, i.e., a “resistor.” As the Court has already ruled, “resistance” is not limited to a “resistor.” The claim refers to coupling an outer guard ring to row and column lines “via a resistance.” In construing “resistance” the Court rejected CPT’s attempt to “unnecessarily limit[] ‘resistance’ to one specific electric component, a resistor.” *LG Philips LCD Co.*, 434 F. Supp. 2d at 298. The Court correctly reasoned that “[t]here is no support in the intrinsic record for such a narrow interpretation” and that “a person skilled in the art would certainly understand the meaning of ‘resistor’ so it is logical to conclude that the inventor would

¹⁴ Similarly, Defendants have not, and could not, present evidence to support an allegation that LPL disclosed, but did not claim, subject matter and then sought to reclaim it under the doctrine of equivalents. As such, Defendants’ reliance on cases involving disclosed, unclaimed subject matter is misplaced. *See, e.g., PSC Computer Prods., Inc. v. Foxconn Int’l, Inc.*, 355 F.3d 1353, 1360 (Fed. Cir. 2004).

have chosen that term had he intended to refer only to that specific component.” *Id.* Indeed, Mr. Holmberg testified that the term “resistor” was “too confining.” Trial Tr. 554:1-6. Further, Dr. Howard agreed that resistors, transistors and diodes all have resistance.¹⁵ Trial Tr. 1704:3:20 - 1704:6.

B.

¹⁵ CPT mischaracterizes Dr. Schlam’s testimony when arguing that LPL’s application of resistance can be satisfied by anything because “even a piece of clothing has a resistance.” D.I. 460 at 22 n.6. Dr. Schlam testified that not all materials would provide sufficient resistance and reduce current surge to protect the TFT array. Trial Tr. 1958:6 - 1959:7.

C.

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D.

VII. DEFENDANTS FAILED TO PROVE THAT CLAIM 1 OR CLAIM 8 IS INVALID

A. Defendants Failed To Prove Invalidity by Clear and Convincing Evidence

Judgment as a matter of law on invalidity is for “extreme cases” in which “the jury would not be at liberty to disbelieve” Defendants’ evidence and “the only reasonable conclusion” is in Defendants’ favor. *Mentor H/S, Inc. v. Med. Device Alliance, Inc.*, 244 F.3d 1365, 1375 (Fed.

Cir. 2001). Defendants' expert, Dr. Howard, testified that the prior art does not disclose all elements in claims 1 and 8 of the '002 patent. Trial Tr. at 1459:10-17. Dr. Howard's concession is fatal to Defendants' motion. Not only does Dr. Howard admit novelty but, by law, the '002 patent is presumed valid. *See Oxford Gene Tech. v. Mergen Ltd.*, 345 F. Supp. 2d 444, 449 (D. Del. 2004); 35 U.S.C. § 282.

Defendants have the burden to prove invalidity by clear and convincing evidence. *See Oxford Gene Tech.*, 345 F. Supp. 2d at 449 (citing *Robotic Vision Sys. v. View Eng'g, Inc.*, 189 F.3d 1370, 1377 (Fed. Cir. 1999)). Proof by clear and convincing evidence suggests "an abiding conviction that the truth of [the] factual contentions are 'highly probable.'" *Impax Labs., Inc. v Aventis Pharms., Inc.*, 333 F. Supp. 2d 265, 271 (D. Del. 2004) (alteration in original) (quoting *Colorado v. New Mexico*, 467 U.S. 310, 316 (1984)). Further, the "presumption of validity is never weakened, and the burden of proving invalidity" always remains with Defendants. *Oxford Gene Tech.*, 345 F. Supp. 2d at 449.

B. Claim 1 Is Not Anticipated, and Obviousness Is Not Asserted

Anticipation must be proved by clear and convincing evidence. *See Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co.*, 308 F.3d 1167, 1188 (Fed. Cir. 2002). Defendants must show that a single prior art reference discloses each and every element of the patented invention. *See Oxford Gene Tech. Ltd.*, 345 F. Supp. 2d at 450. A single missing element makes the reference non-anticipatory. *See id.*; *see also Scripps Clinic & Research Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991). References with "the same general features as the invention do not anticipate the invention, and one skilled in the art cannot supply missing elements through his or her knowledge." *Forest Labs., Inc. v. Ivax Pharms., Inc.*, 438 F. Supp. 2d 479, 485 (D. Del. 2006). The jury's verdict rejecting CPT's anticipation defense "indicates that the jury found that no prior art reference completely embodied the method . . . of

the claims at issue.” *Lucent Techs.*, 168 F. Supp. 2d at 233. On post-trial review, this Court “must uphold” the verdict that the patent is not anticipated “if a reasonable jury could find that one or more elements of the patent claims are not found in the purportedly anticipatory reference.” *Id.*

1. The Okawa Reference Fails To Anticipate Claim 1

Defendants failed to present clear and convincing evidence that the Okawa reference anticipates Claim 1.¹⁸ *Union Carbide*, 308 F.3d at 1188. Dr. Howard never *affirmatively* testified that Claim 1 is anticipated. Rather, Dr. Howard waffled by stating that Okawa did not anticipate assuming that the jury agreed with his infringement analysis. Trial Tr. 1459:10-17; 1723:13 - 1724:9. Further, substantial evidence demonstrates that Okawa does not disclose the claimed elements “interconnecting” and “removing said outer guard ring and row and column interconnections.”

As discussed in detail in Section V.C., *supra*, the jury properly concluded that CPT’s methods differ from Okawa, because CPT *does not* practice the prior art for “interconnecting” and Okawa does not disclose “electrically connecting with conductors.”

Defendants’ claim that Okawa teaches removal of the outer guard ring is equally unpersuasive. As Dr. Schlam explained in detail, Okawa teaches *away from removal* of the guard ring. Trial Tr. 1953:5-24. Okawa mentions removal only in connection with the prior art, over which it offers an improvement. *Id.* at 1714:14 - 1715:14; 1999:4 - 2000:3.

Unable to find removal directly, Dr. Howard attempted to read removal into the reference. Trial Tr. 1619:17-24. Dr. Howard contended that Okawa *implies* an intent to use

¹⁸ Defendants incorrectly imply that LPL must prove its “arguments against the Okawa reference being invalidating as prior art.” Def. Mot. at 27. The burden of establishing anticipation lies squarely with Defendants. *Mentor H/S, Inc.*, 244 F.3d at 1375.

guard rings only during the manufacturing process, after which guard rings “would be” removed. *Id.* He acknowledged that in order to reach this result, he had to combine the Okawa “invention” and prior art discussion. *Id.* at 1716:7-15. Dr. Howard’s attempt to cobble separate embodiments is legally impermissible. In *Applera Corp.*, the Court determined that a parameter of “the collision cell embodiment” could not be combined with “the ion guide embodiment.” The court held that the combination of different embodiments would be improper because the parameter was tied to “the workings of the cell collision” and there was no teaching or suggestion to use the same parameters in the ion guide embodiment. *Applera Corp.*, 204 F. Supp. 2d at 752-753. Similarly, the removal of the connection to the guard ring of the prior art referenced in Okawa is directly linked to proper functioning of the display. Okawa teaches away from the combination because the invention specifically describes a way to permit the guard ring to remain on the display during testing and operation. See DTX 4; Trial Tr. 1953:5 - 1954:9.

Further, Defendants’ argument that removal is “inherent” in Okawa misconstrues patent law. “For an element to be inherent in a prior art reference it must necessarily be present in the reference.” *Lucent Techs.*, 168 F. Supp. 2d at 233. Whether “each and every step or element is inherent in a prior art reference is a question of fact.” *Id.* (citing *Hazani v. United States Int’l Trade Comm’n*, 126 F.3d 1473, 1477 (Fed. Cir. 1997)). Defendants cannot show inherency merely “by probabilities or possibilities,” or that the disputed thing “*may* result from a given set of circumstances.” *Id.* (quoting *Cont’l Can Co.*, 948 F.2d at 1268-69).

In Okawa, removal is neither required nor a natural and necessary result. As Dr. Schlam explained, the guard ring in Okawa “does not interfere with the operation of the display” and does not need to be removed. Trial Tr. 1953:15-24. Further, Dr. Howard conceded that if the operating voltage of the array was at the same level as the testing voltage of the array, then there

would be no need to remove the outer guard ring. *Id.* at 1715:15 - 1716:6. Because removal is not “necessarily present,” and “interconnecting” is not disclosed, Okawa does not anticipate claim 1 of the ‘002 patent.

2. The Kawamura Reference Fails To Anticipate Claim 1

Defendants also fail to prove by clear and convincing evidence that the “Kawamura reference” anticipated Claim 1. Kawamura fails to disclose at least two required limitations. First, Kawamura teaches an inner guard ring inside the driver pads, unlike the outer guard ring in claim 1. In addition, Kawamura does not teach removal of the guard ring, as claim 1 requires.

As Mr. Holmberg explained, the claim language distinguishes between inner and outer guard rings based on their position relative to the contact pads. Trial Tr. 553:19-24. Inner guard rings are inside the contact pads, and outer rings are “external to the contact pads.” *Id.* Reviewing the Kawamura reference, Dr. Schlam explained that “by definition,” it depicts “an inner guard ring and not an outer guard ring” because the guard rings are inside the pads. Trial Tr. 1961:22 - 1962:10. Dr. Howard also conceded that Kawamura depicts guard rings that are *inside* the contact pads. Trial Tr. 1716:22 - 1728:6. Dr. Howard then contended unconvincingly that the inner ring is an outer ring “because it could be moved to the outer part.”¹⁹ *Id.* at 1718:13-16. As Dr. Schlam testified, Kawamura’s structure must be an inner ring based on the Court’s claim construction. Trial Tr. 1962:4-10; *see also LG Philips LCD Co.* 434 F. Supp. 2d at

¹⁹ Although Defendants try to shore up Dr. Howard’s opinions by claiming that one of ordinary skill would have recognized an outer guard ring in Kawamura, the evidence simply does not support this assertion. Dr. Howard based his conclusion that Kawamura depicts an outer guard ring on his personal observations of the teachings, and he admitted that he was required to interpret Kawamura’s figures to arrive at that conclusion. *Id.* at 1722:3. Dr. Howard drew on his substantial expertise, and on his “decades of years of experience in this field” in performing this analysis. *Id.* at 1721:6-11. *He never opined that one of ordinary skill in the art could or would reach the same conclusions.* Without such an opinion, Defendants cannot establish that there is no difference between the ‘002 patent and Kawamura. *Scripps Clinic*, 927 F.2d at 1576-77.

298. Given the overwhelming evidence that the “outer guard ring” element is not found in Kawamura, the jury properly rejected Defendants’ anticipation defense.

In addition, Dr. Howard conceded that Kawamura does not disclose removal of the entire guard ring structure. *See* Trial Tr. 1719:16 - 1720:11. Claim 1 requires “removing said outer guard ring and row and column interconnections prior to completion of the display.” PTX 1 at Column 9, lines 11-12. The Court’s construction of this phrase to mean “physically disconnecting said guard ring and row and column interconnections” such that they are not included in the finished display panel requires removal of the entire guard ring. *LG Philips LCD Co.*, 434 F. Supp. 2d at 297. Defendants assert that Kawamura’s electrical disconnection teaches removing the guard ring “through etching,” but Dr. Howard never opined that etching could remove the *entire* guard rings and interconnections. Trial Tr. 1628:11-15; 1633:5 - 1634:2. Indeed, Kawamura shows only “small amounts of metal being removed,” and Dr. Howard was forced to rely on the “at least” language in Kawamura to argue that “more” than the “small amounts” indicated *could* be removed. Trial Tr. 1633:5-19. This construction is not only unpersuasive, but also insufficient, as removing more than some is not the same as removing all.²⁰

3. The ‘002 Invention Predates the Kawamura Reference

The ‘002 invention predates the May 11, 1988 Kawamura reference. Mr. Holmberg, the inventor, testified that he had conceived and reduced the invention to practice before May 11, 1988. Trial Tr. 547:7-20. The Kawamura reference thus is not prior art.

²⁰ In fact, Dr. Schlam testified that under certain conditions, attempting to remove the entire guard ring using an acid etch could cause the entire structure to disappear, rendering the entire display useless. Trial Tr. 1962:11 - 1964:7.

“The presumption of validity, 35 U.S.C. § 282 (1994) requires those challenging validity to introduce *clear and convincing evidence on all issues* relating to the status of a particular reference as prior art.” *Sandt Tech., Ltd. v. Resco Metal and Plastics Corp.*, 264 F.3d 1344, 1350 (Fed. Cir. 2001) (emphasis added). Mr. Holmberg testified that he first noticed ESD problems when his company, Alphasil, began production during the third quarter of 1987, and thereafter he “immediately started designing ESD protection in the products.” Trial Tr. 543:4-19. He experimented with several guard ring configurations before he “finally . . . came up with [using] the inner and outer guard ring for maximum protection” during the first quarter of 1988. Trial Tr. 544:1-10. Mr. Holmberg and his colleagues continuously tested the overall effectiveness of their methods. As part of the testing program, they arranged for Honeywell to provide detailed ESD protection measurements on some of Alphasil’s smaller products. Trial Tr. 541:11 - 542:23. A testing memorandum and schematics generated by Honeywell during this period confirms Mr. Holmberg’s testimony regarding the testing manner and time period.²¹ PTX 130.

Mr. Holmberg testified that Alphasil was a small company with limited financial resources. Trial Tr. 547:15-20. Because of these financial constraints, its normal business practice was to prove an invention before filing a patent application, so as to “make sure that it wasn’t just a concept [but rather] that we had actually built and demonstrated the technology.”

²¹ Defendants cannot support their claim that the Honeywell memo was not properly authenticated. Although they question the *quality* of the evidence supporting authentication, they never assert that the Court erred by admitting PTX 130. “The burden of proof for authentication is slight.” *Lexington Ins. Co. v. W. Pennsylvania Hosp.*, 423 F.3d 318, 328 (3d Cir. 2005) (quoting *McQueeney v. Wilmington Trust Co.*, 779 F.2d 916, 928 (3d Cir. 1985)); *see also Link v. Mercedes-Benz of N.A., Inc.*, 788 F.2d 918, 927 (3d Cir. 1986); *McQueeney*, 779 F.2d at 928. Authentication requires only “a foundation from which the fact-finder could legitimately infer that the evidence is what the proponent claims it to be.” *Id.* (quoting *In re Japanese Elections*, 723 F.2d 238, 285 (3d Cir. 1983)); *see also Tracinda Corp. v. DaimlerChrysler AG*, 362 F. Supp. 2d 487, 500 (D. Del. 2005). The Court’s pre-trial guidance confirmed the authentication of all documents produced in discovery absent some real question. Trial Tr. at 83:22 -

(footnote continued on next page)

Id. On May 5, 1988, Mr. Holmberg met with Alphasil's patent attorney to begin the patent application. Trial Tr. 551:3-22. Before that date, therefore, the invention had been confirmed as was customary. Mr. Holmberg thus invented the method disclosed in the '002 patent before May 11, 1988 when Kawamura was published. Trial Tr. 547:7-20.

4. The Invention Date Is Sufficiently Corroborated

LPL also introduced at trial documentary evidence corroborating Mr. Holmberg's testimony regarding the invention date. Once LPL brought "forth some evidence of a date of invention prior to that of the patent filing, the ultimate burden of proving . . . [invalidity requires the party challenging a patent to] disprove *any* evidence . . . of an earlier date of invention by clear and convincing evidence." *Gamma-Metrics Inc. v. Scantech Ltd.*, 52 U.S.P.Q.2d 1578, 1584 (S.D. Cal. 1998) (citing *Innovative Scuba Concepts, Inc.*, 26 F.3d at 1115 (1994)).

Defendants do not offer any specific reason to doubt Mr. Holmberg's testimony or the corroborating documents. Defendants also presented no evidence to counter Mr. Holmberg's testimony. Given LPL's unrefuted evidence of a pre-filing invention date, supported with documentary evidence, Defendants cannot overcome the statutory presumption of validity.²²

IMX, Inc. v. LendingTree, LLC, 405 F. Supp. 2d 479, 493 (D. Del. 2005).

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84:18. (Ex. 5). The memo was produced in discovery and Mr. Holmberg had retrieved the document from his files. Trial Tr. 549:11 - 551:2.

²² Defendants incorrectly argue that LPL had the burden of establishing a pre-filing invention date "by clear and convincing evidence." D.I. 460 at 33. "While a patentee may have the burden of going forward with rebuttal evidence once a challenger has presented a *prima facie* case of invalidity, the presumption of validity remains intact and the *ultimate burden of proving invalidity remains with the challenger throughout the litigation.*" *Innovative Scuba Concepts, Inc. v. Feder Indus., Inc.*, 26 F.3d 1112, 1115 (Fed. Cir. 1994) (citing *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1376 (Fed. Cir. 1986) (emphasis added)).

The purpose of corroborating evidence is to assist the jury in assessing Mr. Holmberg's credibility. *Id.*; *see also Medicem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157 (Fed. Cir. 2006). The jury considers all evidence, including any circumstantial evidence, supporting the inventor's credibility. *Sandt Tech.*, 264 F.3d at 1350-51; *see also Civix-DDI, LLC v. Cellco P'ship*, 387 F. Supp. 2d 869, 904 (N.D. Ill. 2005). Mr. Holmberg testified about the problem that inspired the invention of the '002 patent, the process he undertook to develop the invention, and the timing of the invention. In addition, the Honeywell memo reinforced Mr. Holmberg's credibility, and did not need to document every detail of the invention process. *See Sandt Tech.*, 264 F.3d at 1350-51. The memo documented the testing process that led to the final invention described in the '002 patent.²³ Defendants, therefore, failed to carry their burden of persuasion. *See Innovative Scuba Concepts*, 26 F.3d at 1115 (defendant has ultimate burden of persuasion).

C. Claim 8 Is Not Obvious, and Anticipation Is Not Asserted

Invalidity based on obviousness must be proved by clear and convincing evidence. *See Corning*, 400 F. Supp. 2d at 670. Defendants failed at trial to prove by clear and convincing evidence "that the invention described in the patent would have been obvious to a person of ordinary skill in the art at the time the invention was made." *Forest Labs.*, 438 F. Supp. 2d at 492. Defendants' post-trial burden is "doubly high": Defendants "must show that no reasonable jury could have failed to conclude that [Defendants'] case had been established by clear and convincing evidence." *Boehringer Ingelheim Vetmedica, Inc.*, 320 F.3d at 1353.

²³ Defendants' argument that the memo does not mention guard rings is incorrect. Mr. Holmberg explained that Honeywell performed ESD testing on Alphasil's 1" x 4.75" product, which employed guard ring technology for ESD protection. Trial Tr. 544:14-18. The Honeywell memo recites guard rings (identified as "ESD protection circuits") in the first sentence of its Summary, and provides an example of a circuit with a guard ring in Figure 3 with photographs of the actual device in Figure 2. PTX 130.

To prove invalidity by obviousness, Defendants must show that “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art” 35 U.S.C. §103(a). Obviousness is predicated on several factual inquiries: (1) the scope and content of the prior art; (2) the differences between the claims and the prior art; (3) the level of ordinary skill in the pertinent art; and (4) secondary considerations, which include objective evidence of nonobviousness. *See id.*; *Forest Labs.*, 438 F. Supp. 2d at 492; *Oxford Gene Tech.*, 345 F. Supp. 2d at 451-52. Further, Defendants cannot merely show that each element of a claim exists in the prior art – Defendants *also* must show “a ‘reason, suggestion, or motivation in the prior art that would lead one of ordinary skill in the art to combine the references, and that would also suggest a reasonable likelihood of success.’” *Id.* at 452 (quoting *Smith Indus. Med. Sys., Inc. v. Vital Signs, Inc.*, 183 F.3d 1347, 1356 (Fed. Cir. 1999)). This additional requirement of showing how the prior art suggested carrying out the claimed process is “the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis” and is strictly enforced. *Corning Inc.*, 400 F. Supp. 2d at 670 (quoting *In re Gartside*, 203 F.3d 1305, 1319 (Fed. Cir. 2000)). The motivation, teaching, or suggestion to combine is a question of fact. *See State Contracting & Eng’g Corp. v. Condotte Am.*, 346 F.3d 1057, 1069-71 (Fed. Cir. 2003).

1. **No Combination of Prior Art Teaches All Elements Required By Claim 8**

Claim 8 depends from Claim 1 and teaches the additional limitation of using an inner guard ring with an outer guard ring. No combination of Orito or Yudasaka with Okawa or Kawamura renders Claim 8 obvious.

As discussed above, neither Okawa nor Kawamura teaches removal of an outer guard ring as required in claims 1 and 8 of the '002 patent. Dr. Schlam explained that Okawa does not teach the claim 1 and 8 element of removing the outer guard ring, but instead could operate with the MIM diodes and guard rings in place. *Id.* at 1953:5 - 1954:9. Further, Dr. Howard's concession that for some operating voltage ranges there would be no need to remove the guard ring of Okawa demonstrates it fails to disclose removal. *See id.* at 1715:15 - 1716:6. Similarly, Dr. Howard concedes that Kawamura merely allows for removal but does not affirmatively teach it. *Id.* 1719:16-22.

In addition, Kawamura does not disclose an outer guard ring. Dr. Howard's unpersuasive basis for characterizing Kawamura as showing an outer guard ring was that the ring "could be moved to the outer part." Trial Tr. 1718:15-17 (emphasis added). This explanation failed to provide clear and convincing evidence. Therefore, the jury properly concluded claim 8 was not proved to be obvious.

2. Defendants Failed To Prove Any Motivation To Combine Prior Art

Defendants also failed to prove by clear and convincing evidence a motivation to combine the prior art. Defendants did not prove that one of ordinary skill in the art "confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed." *See Oxford Gene Tech.*, 345 F. Supp. 2d at 455 (quoting *Ecolochem, Inc. v. Southern Cal. Edison Co.*, 227 F.3d 1361, 1375 (Fed. Cir. 2000)). One of ordinary skill in the art was described as one with a bachelor's degree in engineering or physical science and at least one year of experience in the LCD flat panel business. See Trial Tr. 1626:19 - 1627:14. Defendants provided no evidentiary basis that such a person would recognize that the cited references "could clearly be

combined.” *See* Defs. Op. Br. at 3, 35. CPT’s assertion is inconsistent with the evidence. *See e.g.*, Trial Tr. 595:2 - 596:9.

Defendants’ reliance on Dr. Schlam’s testimony to prove motivation to combine is misplaced. The cited testimony was not given from the perspective of one of skill in the art nor provided in the context of explaining a motivation to combine. Moreover, Dr. Schlam did not state that combining any of the asserted references is “as obvious as combining a raincoat and an umbrella on a rainy day.” D.I. 460 at 3, 35. Rather, Dr. Schlam drew an analogy between using inner and outer guard rings and using an umbrella and a raincoat; using two methods of protection is not necessarily redundant as double protection is likely to be more effective. *See Trial Tr. 1649:20 - 1650:5; 1972:5 - 1973:20.* Dr. Schlam never testified that one of ordinary skill in the art would have known to combine different types of guard rings in the way that the ‘002 patent teaches.

Similarly, Defendants misconstrue Dr. Schlam’s testimony regarding the fact that combining two guard rings results in more protection than using only one guard ring. *See D.I. 460 at 35.* At his deposition, Dr. Schlam was asked about the basis for concluding “that the combination of the inner ring and the outer ring together provide more ESD protection than the inner ring alone?” Dr. Schlam responded that “It’s something that’s quite obvious in the world of electronics.” Seizing on the word “obvious”, Defendants contend that this somehow supports a conclusion that it was obvious to one of ordinary skill to combine two or more of the asserted references. Dr. Schlam, however, testified repeatedly to the exact opposite opinion: the asserted references do not establish obviousness for purposes of patent law. Trial Tr. 1969:8-11. Dr. Schlam’s general statement regarding the obvious fact that using two rings increases ESD protection does not even address whether, in 1988, one of ordinary skill in the art would have

been motivated to combine. Significantly, in 1988 LCD production was in its infancy and limited to small screens, long before the advanced industry that exists today.

D. Secondary Considerations Support the Verdict of Non-Obviousness

1. “Secondary Considerations” Are Highly Probative of Non-Obviousness

LPL’s rebuttal case included substantial evidence of copying of the invention, long-felt and unresolved need for the invention, and the invention’s commercial success. These so-called “secondary considerations” “may be highly probative or even the most probative evidence in the record regarding the question of obviousness.” *W.R. Grace & Co.-Conn. v. Intercat, Inc.*, 7 F. Supp. 2d 425, 463 (D. Del. 1997), *aff’d*, 155 F.3d 572 (Fed. Cir. 1998).

2. Copying Supports the Verdict of Non-Obviousness

Copying provides further evidence of nonobviousness. *W.R. Grace*, 7 F. Supp. 2d at 463-464. The jury heard substantial evidence that CPT copied the technology after learning about it from LPL.

This evidence supports the finding, implicit in the willfulness verdict, that CPT copied the '002 technology. Indeed, CPT did not provide a single witness, or any other direct evidence, that CPT did not copy the '002 technology.

3. Long Felt Unresolved Need Supports the Verdict of Non-Obviousness

TFT arrays historically suffered from low yield rates and ESD damage. The jury heard testimony that in the early 1990s, "the greatest purpose, the greatest objective that we had was raising the yield rate, because at that time due to various problems, it was very difficult to make large size display." Trial Tr. 595:4-11. Dr. Schlam and Dr. Howard agreed that failure of one or more TFTs in an array could mean the loss of an entire display, a costly problem. *Id.* at 332:12 - 334:2; 1642:10-17. Environmental anti-ESD measures are inadequate and the industry struggled for years to find a solution. *Id.* at 331:15 - 332:22.

The '002 patent provided the long sought breakthrough that ensured "sufficient yield to be able to produce and sell these displays" *Id.* at 332:19-20. As Mr. Lee testified, LPL was able to solve ESD problems by implementing the '002 methods, and "it was a tremendous technology for us." *Id.* at 596:10-23. LPL was "fortunate to have found this guard ring technology." *Id.* at 332:21-22. The teachings of the '002 patent also worked for CPT, as using inner and outer guard rings increased its LCD yield and lowered manufacturing costs, resolving a longstanding problem.

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4. **Commercial Success Supports the Verdict of Non-Obviousness**

The evidence showed that the '002 technology is valuable and commercially successful, such that "just about every manufacturer of LCDs uses guard rings. They just would be foolish not to." Trial Tr. 333:7-12. As CPT has acknowledged, LPL itself practices the '002 technology. D.I. 460 at 15. In addition, LPL is aware that the '002 methods are copied throughout the industry by several other companies. Trial Tr. 238:3-9 ("...everybody uses this technology..."). CPT, moreover, uses guard rings in most of its products as well. *See* PTX 35.

CONCLUSION

Accordingly, for all the foregoing reasons, Defendants' Motion should be denied.

Dated: October 23, 2006

THE BAYARD FIRM

/s/ Richard D. Kirk (rk0922)
Richard D. Kirk (#922)
222 Delaware Avenue, Suite 900
P.O. Box 25130
Wilmington, DE 19899-5130
(302) 655-5000

Counsel for Plaintiff
LG PHILIPS LCD CO., LTD.

OF COUNSEL:

Gaspare J. Bono
R. Tyler Goodwyn
Cass W. Christenson
McKenna Long & Aldridge LLP
1900 K Street, N.W.
Washington, D.C. 20006
(202) 496-7500

CERTIFICATE OF SERVICE

The undersigned counsel certifies that, on October 23, 2006, he electronically filed the foregoing document with the Clerk of the Court using CM/ECF, which will send automatic notification of the filing to the following:

Robert W. Whetzel, Esq.
Matthew W. King, Esq.
Richards, Layton & Finger
One Rodney Square
P.O. Box 551
Wilmington, DE 19899

The undersigned counsel further certifies that copies of the foregoing document were sent on October 23, 2006 by email and by hand to the above counsel and by email and first class mail to the following non-registered participants:

Christine A. Dudzik, Esq.
Thomas W. Jenkins, Esq.
Howrey LLP
321 North Clark Street
Suite 3400
Chicago, IL 60610

Teresa M. Corbin, Esq.
Glenn W. Rhodes, Esq.
Julie Gabler, Esq.
Howrey LLP
525 Market Street
Suite 3600
San Francisco, CA 94105

/s/ Richard D. Kirk (rk0922)
Richard D. Kirk